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ABSTRACT

Fifty-seven studies addressing assessment issues of Native American rehabilitation are briefly described in this annotated bibliography. Cited alphabetically by author, the information is intended to provide consumers, policy makers, direct service providers, researchers, advocates, and parents with a synthesis of knowledge regarding key issues related to the rehabilitation of Native Americans who are disabled. Materials listed include journal articles, theses and dissertations, bibliographies, papers presented at conferences, and research reports. Materials were identified through a comprehensive search of five databases from 1966 to 1986: (1) Educational Resources Information Center (ERIC); (2) Bibliographical Retrieval Services (BRS); (3) National Association of Rehabilitation Information Center: RehabData (NARIC); (4) Dialog (ABI/Inform, Medline, Psych Info, Sociological Abstracts); and (5) FAMULUS. (NEC)

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Native American Rehabilitation: A Bibliographic Series, No. 1

Assessment Issues

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Northern Arizona University

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Keres Word: Thoughts or concepts to consider

Research Report

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Native American Rehabilitation: A Bibliographic Series, No. 1

Assessment Issues

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Introduction

The information listed here is intended to provide consumers, policy makers, direct service providers, researchers, advocates, and parents with a synthesis of knowledge regarding key issues related to the rehabilitation of Native Americans who are disabled. The Bibliographic Series consists of seven key topical areas including: (a) assessment issues; (b) rehabilitation issues; (c) special education issues; (d) family issues; (e) mental health issues; (f) health care issues; and (g) medically related disability issues.

Selection Process

Materials for inclusion in the Bibliographic Series were identified through a comprehensive search of relevant databases. The years of the computerized search included 1966 to 1986, varying across databases, depending on the availability of computerized material and the comprehensiveness of the database within this time period. The databases included in the search were: (a) ERIC (Educational Resource Information Center); (b) BRS (Bibliographical Retrieval Services: attitudes, education, intellectual development, language, and rehabilitation); (c) NARIC (National Association of Rehabilitation

Information Center: RehabData); (d) Dialog (ABI/Inform, Medline, PscyhInfo, Sociological Abstracts); and (e) FAMULUS.

In addition, materials identified by the Native American Research and Training Center research staff through journal content analysis were included. Materials identified through this first step were then individually reviewed for inclusion based on the criteria outlined below.

Selection Criteria

Materials were selected for inclusion in the Bibliographic Series if the information was relevant to one of the seven identified topical areas. In addition, material that was identified from non-computerized sources and consisted of incomplete bibliographic information such that the material could not be located through assistance from the library, or by writing the authors, was excluded. Abstracts were rewritten when necessary to provide further clarity of the study findings. The materials selected here represent what is believed to be a comprehensive summary of information related to the seven topical areas.

ASSESSMENT

Asmussen, J.M. (1976). Visual-motor perception of Sioux and Chippewa children and the normative population on the Bender Gestalt test using the Koppitz. Dissertation Abstracts International, 37, 7012A-7013A. (University Microfilms No. 77-11,046)

The purpose of this study was to determine if normative data in the Koppitz system for the Bender Gestalt test of visual-motor perception is appropriate to use for the evaluation of non-reservation and reservation Sioux and Chippewa children. Comparisons were made on mean error scores between non-reservation and reservation placement, Sioux and Chippewa tribal affiliation, and boys and girls. Children were between the ages of 5 years and 10 years, 11 months. The results showed that Sioux and Chippewa children differed significantly from the Koppitz normative sample at all age levels. Therefore, it was concluded that the Koppitz system is not appropriate for use with Sioux and Chippewa children. There was no significant difference between reservation and non-reservation placement, between girls and boys, or between the two tribes.

Bowd, A.D. (1972). Some determinants of school achievement in several Indian groups. Alberta Journal of Educational Research, 18, 69-76.

This study examined the relative importance of vocabulary, general intelligence, language background, and

socioeconomic status in determining the grade level achieved by Indian boys aged 12-14 years from several cultural groups in Western Canada. The author accepted the distinction between present ability and educability for people undergoing acculturation. Therefore, it was anticipated that while general intelligence would be a satisfactory predictor of achievement among white children, vocabulary and socioeconomic status would be most important for Indian groups. This expectation received general confirmation, and some implications for teachers of Indian children are discussed briefly.

Boyer, L.B., de Vos, G.A., & Boyer, R.M. (1983). A longitudinal study of three Apache brothers as reflected in their Rorschach protocols. Journal of Psychoanalytic Anthropology, 6(2), 125-161.

Three brothers were administered the Rorschach protocols at 6 and 10, 17 and 20, and 27 and 30 years of age. Performance was compared with those obtained from their parents. The authors used life history formats to discuss the effects of parental emotional problems, disordered family life, and deprived emotional nurturing of the three brothers. Results indicated a pattern of passivity and weakness of emotional integration.

Brandt, E.A. (1984). The cognitive functioning of American Indian children: A critique of McShane and Plas. School Psychology Review, 13(1), 74-82.

The author believed that the McShane and Plas literature review did not critically examine the methodological or theoretical problems in the cited studies. The authors reported that the examination resulted in a profile of Native American performance which did not control for English language fluency or for normal versus handicapped Indian populations.

Browne, D.B. (1984). WISC-R scoring patterns among Native Americans of the Northern Plains. White Cloud Journal, 3(2), 3-15.

The author explored the Wechsler Intelligence Scale for Children-Revised (WISC-R) scoring patterns of 197 Native American children (ages 6-16) to identify characteristic cognitive processing strengths. Analysis of subtest specificity, mean profiles and subtest scatter, and of factor structure revealed a pattern of WISC-R performance different from that of the standardization population. The findings of positive Performance-Verbal (P-V) differences, with highest performance scores on subtests identified as "right brain", suggested that this characteristically different pattern reflects relatively greater strength in relational, holistic, and right hemisphere information processing. Picture Completion and Coding abilities played

a different role for these children than that reported for the WISC-R standardization population. Rather than contributing to Perceptual Organization, Picture Completion showed a high degree of specificity. Coding did not contribute to Freedom from Distractibility. The appearance of these two subtests in an inverse relationship in a fourth factor suggested they represent opposite ends of an information processing continuum.

Butcher, J., Braswell, L., & Raney, D. (1983). A cross-cultural comparison of American Indian, Black, and White inpatients on the MMPI and presenting symptoms. Journal of Consulting & Clinical Psychology, 51(4), 587-594.

This article studied personality differences among 97 Black, 454 White, and 36 American Indian psychiatric inpatients, aged 16-70 years. Comparisons were made both on the total samples and on matched samples of Black-White and American Indian-White patients according to SES. Data included presenting complaints, diagnoses, demographic information, and the MMPI. Results showed that Black inpatients, in both representative and matched comparison, had significantly higher scores than other groups on the Validity, Paranoia, Schizophrenia, and Hypomania subscales of the MMPI. Results may have reflected actual symptomatic differences between the groups rather than supporting the conclusion that the MMPI "overpathologizes" for Black patients.

Cress, J.W. (1974). Cognitive and personality testing use and abuse. Journal of American Indian Education, 13(3), 16-19.

This article discussed the validity of using cognitive and personality tests that have been standardized on a majority culture to assess students from a non-white minority culture. Research was discussed that provides evidence that the cognitive scores of minority culture students may be considered good indices of future levels of academic performance, but in no way as indicators of capacity or intelligence. The author presented evidence to suggest that the validity of personality tests standardized on the majority culture must be demonstrated in each case when used for American Indian populations. It was concluded that without demonstrated validity of personality tests the results are unreliable and suspect.

Dana, R.H. (1984). Intelligence testing of American Indian children: Sidesteps in quest of ethical practice. White Cloud Journal, 3(3), 35-43.

The author reviewed the literature to suggest a rationale for a lack of representation in state-of-the-science research in current assessment practices with American Indian children. Alternative measures are described, and a perspective on the use of intelligence tests with traditional and acculturated American Indian children was offered. A culturally learned

basis for intellectual functioning among traditional children supports alternative assessment functions for traditional reservation lifestyle and for acculturation and entry into mainstream society. It was suggested that performance measures including the Draw-A-Man test, the System of Multicultural Pluralistic Assessment, and Piagetian and Luria-derived tasks may provide less biased intelligence estimates. Suggestions for increasing awareness of responsible practice, including training in cultural contents, and constant monitoring of research findings were discussed.

Dana, R.H., Hornby, R., & Hoffman, T. (1984). Local norms of personality assessment for Rosebud Sioux. White Cloud Journal, 3(2), 17-24.

Measures of life stress, locus of control, world view, and values were administered to 91 individuals of the Rosebud Sioux Tribe. The results provided some limited norms for local use of these measures and descriptive data for this tribe. These measures provided examples of culturally relevant, non-discriminatory instruments for assessment of Native Americans.

Das, J.P., & Krywaniuk, L.W. (1976). Cognitive strategies in Native children: analysis and intervention. Alberta Journal of Educational Research, 22, 271-280.

The purpose of this study was to investigate whether or not Native children use a different cognitive approach to specific skills and whether these strategies can be changed through training. The children were administered the Raven's Progressive Matrices and the Wechsler Intelligence Scale for Children (WISC). Two cognitive strategies were isolated: successive and simultaneous. On the initial assessment, the students did not perform as expected, but after an intervention in successive strategies, they improved on the Raven's.

Educational Testing Service. (1982). Tests appropriate for use with Native Americans. Princeton, N.J.: Educational Testing Service.

This annotated bibliography described 13 standardized tests appropriate for use with American Indians from preschool through high school levels, furnishing authors, copyright date, appropriate age level, physical format, and publisher. A separate listing included the names, addresses, and telephone numbers of 33 major U.S. publishers of standardized tests.

Evard, B.L., & Sabers, D.L. (1979). Speech and language testing with distinct ethnic-racial groups: A survey of procedures for improving validity. Journal of Speech and Hearing Disorders, 44, 271-281.

This article indicated that several procedures are being used currently to improve the validity of speech and language evaluation for ethnic or racial groups from lower-income populations. The procedures mentioned in this article included: (1) development of a new test; (2) modification of test items or keyed responses on existing tests; and (3) development of new norms for existing tests. Examples were given for each procedure, and the advantages and disadvantages were discussed.

Fifield, M. (1983). Improving the utilization and educational relevance of individual psychoeducational assessment reports in the placement of and IEP development for handicapped Native American children. Final Report. Logan, Utah: Utah State University, Exceptional Child Center.

This report revealed the findings of a study in which psychoeducational testing reports were used in one Navajo school district. An analysis of the relationship between psychoeducational reports and IEP recommendations was provided. The study identified strengths and weaknesses of the psychoeducational report system and designs for inservice training of school officials.

Giordano, G. (1978). Commentary: "Congenital verbal deficiency" in Navajo children--more on testing. Reading Teacher, 32(2), 132-134.

While working on the Navajo Reservation the author observed questionable placement of students into special education programs. Objections to this practice were dismissed by team members with the observation that the BIA would receive more money for these students, thus offering better materials and instruction. The author suggested that the attitude of "quantity is quality" was primarily responsible for the poor state of education on the Navajo Reservation. Recommendations were made that changes should originate from and be perceived as functional by the Navajos and should incorporate their value patterns.

Golub, L.S. (1975). English syntax of Black, White, Indian, and Spanish American children. Elementary School Journal, 75(5), 323-334.

The language ability of 268 children (grades 4-6) from four ethnic groups (Black, White, Indian, Spanish-American) was compared to determine whether differences existed in language performance (written English syntax) and linguistic awareness (competence in manipulating and deriving meaning from language structure). The Language Performance Score was used to measure 11 syntactic variables, and the Linguistic Ability Test was used to assess language competence in 12 areas. Samples were also gathered of the subjects' written and oral use of

language. Multivariate analysis indicated no significant differences among the four groups on any variables in the Language Performance Score, but significant differences were found on 11 of the 12 variables in the Linguistic Ability Test, leading to the conclusion that written language performance does not completely reflect a child's linguistic competence.

Gonzales, E. (1982). A cross-cultural comparison of the developmental items of five ethnic groups in the Southwest. Journal of Personality Assessment, 46, 26-31.

The purpose of this study was to compare the performance of children on the Draw-a-Person as a measure of intellectual development, utilizing two different normative samples: the Koppitz norms (1968) contrasted with a recently developed Southwest norm. The 3,067 children were from 5 through 9 years of age and were representative of Anglo, Mexican-American, Pueblo, Navajo and Blacks from the Southwest, with almost equal numbers of males and females. Those who were identified by their teacher as having emotional or educational problems were excluded. Except for Anglo, Mexican-American, and Pueblo males, the performance of the group moved into the exceptional category because of a higher score from the Southwest sample. The author recommended developing regional ethnic norms.

Gray, J.E., & Wiltshire, E.B. (1969). Draw-a-Man and Raven's Progressive Matrices (1938) Intelligence Test performance of reserve Indian children. Canadian Journal of Behavioral Sciences, 1, 119-122.

A total of 86 Canadian reserve Indian children, from 7 to 15 years of age, were tested on the Harris-Goodenough Draw-a-Man and Raven's Progressive Matrices (1938) tests. Mean I.Q.s for Draw-A-Man represented a significant difference between girls (M=100) and boys (M=113). Similarly, mean I.Q.s on the Raven's were not significantly different for girls (M=79) and boys (M=85). Test results were significantly correlated. Older children had significantly lower I.Q.s on the Raven's only. The authors cautioned against assuming that these tests, especially the Raven's (1938), are "culture free" measures of intelligence.

Guilliams, C.I. (1976). Item analyses of Amerindian and Chicano responses on the Vocabulary Scales of the Stanford-Binet LM and Wechsler Batteries. Final Report. Washington, D.C.: National Institute of Education.

Chicano and Amerindian vocabulary scale responses from the Stanford-Binet (LM) and Wechsler Intelligence Scale for Children were analyzed for 1,009 subjects. The response patterns differed both by ethnic group and test, as well as by age. The most common and recurring pattern found was "level of difficulty" gradient inconsistencies. Tribes sampled were Navajo, Apache, and a group of subjects with

mixed-tribal backgrounds. It was concluded that bilingual programs similar to those being used in Texas' NIE funded program be adopted for other large minority groups whose primary language is not either English or Spanish.

Hoffmann, T., Dana, R.H., & Bottom B. (1985). Measured acculturation and MMPI-168 performance of Native American adults. Journal of Cross-Cultural Psychology, 16(2), 243-256.

To test the hypothesis that acculturation influences the Minnesota Multiphasic Personality Inventory (MMPI) performance of Native Americans, an instrument was developed to measure five components of acculturation. When both the acculturation instrument and the MMPI-168 was administered to 69 individuals of the Rosebud Sioux Tribe, the results supported the hypothesis. Thus, caution should be used in interpreting the MMPI profiles of Native Americans.

Hunter, J. (1984). Fairness of the General Aptitude Test Battery: Ability differences and their impact on minority hiring rates. Users test research report No. 46. Sacramento, California: California State Department of Employment Development.

This paper reviewed the large mass of general literature showing that psychological tests are fair to

minorities. This literature showed that there is no single group validity, there is no differential validity, and tests overpredict rather than underpredict minority job performance. General Aptitude Test Battery norms for Blacks, Indians, Mexican Americans, Orientals and the majority White population are compared. Although the majority is higher on cognitive abilities, three out of four minority groups are higher than the majority on psychomotor ability. Thus, there is a varied pattern of rank orders among groups across jobs of different complexity.

Hynd, G.W., Quackenbush, R., Kramer, R., Conner, R., & Weed, W. (1980). Concurrent validity of the McCarthy Scales of Children's Abilities with the Native American primary grade children. Measurement and Evaluation in Guidance, 13, 29-34.

Using the McCarthy Scales and WISC-R, the Navajo children in the study performed considerably lower than the standardization sample. From a mean score of 100, they had a score of 75.86 on the McCarthy Scales and 77.86 on the WISC-R.

Immerman, M.A. (1981). The effect of eliminating time restraints on a standardized test with American Indian adults. (ERIC Document Reproduction Service No. RC 012 398)

To investigate the effect of time restraints on the diagnostic test scores of Native American students entering

Bureau of Indian Affairs schools, two groups of students at Southwestern Indian Polytechnic Institute (SIPI) in Albuquerque, New Mexico, were given the Stanford Diagnostic Reading Test, 1977 edition. The test scores indicated that the experimental group, with no time restraints, scored higher than the control group. It was recommended that the Stanford Diagnostic Reading Test be given to SIPI students without the same time limits, to allow SIPI students the additional time for interpretation, eliminate the atmosphere of competition that Native Americans are not accustomed to, and to remove the additional anxiety caused by time pressure.

Jayagopal, R. (1974). Problem solving abilities and psychomotor skills of high school students belonging to different cultures (ethnic groups) in U.S.A. Journal of Psychological Researcher, 18, 4.

Three ethnic groups (Mexican, Navajo, and Anglo students) in two junior high schools from Albuquerque, NM, were tested using three performance subtests of the WISC and five psychomotor skills--perception. Performances of Mexican students were lower than Anglos and Navajos on all three performance subtests and the five psychomotor skills. Significant relationships between problem-solving and psychomotor skills was demonstrated by all subjects.

Jenson, A. (1973). The differences are real. Psychology Today, 7(7), 80-86.

The author defended his idea that differences in intelligence are based primarily on genetic rather than environmental factors and maintains that his theories are not racist for they do not condone discrimination on the basis of racial origins. The author discussed research evidence that Blacks perform, on the average, one standard deviation below Whites on I.Q. tests, and when Blacks were administered culture-fair and culture-loaded tests, they failed to perform better on the culture-fair test. Yet, Native Americans and Mexican Americans did better on culture-fair I.Q. tests, even though Native Americans experience greater or equal socioeconomic deprivation. The author concluded that racial differences are still an open question and not to be politicized.

Kazimour, K.K., & Reschly, D.J. (1981). Investigation of the norms and concurrent validity for the Adaptive Behavior Inventory for Children (ABIC). American Journal of Mental Deficiency, 85(5), 512-520.

The over-placement of minority children into the category of mildly retarded was investigated using the ABIC, which is the social system measure of the child's performance on a number of social roles and settings in the SOMPA (System of Multicultural Pluralistic Assessment). The 482 children were from four sociocultural groups

(White, Black, Hispanic, and Papago) residing in Pima County, Arizona, and in first, third, and fifth grades. The published ABIC norms were higher than that of the White and Black children in the sample. The means for the Papagos were lower for both the published and Arizona norms. There was little evidence of correlation among ABIC, WICS-R, and teachers' ratings. The authors questioned the nonrelatedness of ABIC to academic abilities/difficulties.

Kirk, S.A. (1972). Ethnic differences in psycholinguistic abilities. Exceptional Children, 39(2), 112-118.

This article summarized the results of several research studies on the psycholinguistic abilities of three ethnic groups (Blacks, Indians, and Mexican Americans) using the Illinois Test of Psycholinguistic Abilities. Black children appeared to have superior ability (as compared to their other abilities and to other ethnic groups) in short term auditory sequential memory, while Indian and Mexican American children appeared to have superior ability in short term visual sequential memory. The author hypothesized that ethnic group differences may be accounted for by different child rearing practices among the ethnic groups.

Lansford, L.M. (1978, June). Performance of American Indian children compared with Koppitz normative population on the Bender. Paper presented at the World Congress on Future Special Education, Stirling, Scotland.

Differences in the normative data presented in the Koppitz Scoring System for the Bender Gestalt Test were compared for 838 elementary-age children of the Sioux, Chippewa, Navajo, and Apache tribes and a Koppitz normative group. The results indicated statistically significant differences between American Indian samples and the non-Indian group at a number of age levels on mean errors. It was also found that differences existed between tribes at certain age levels. It was recommended that normative information specific to tribes be collected.

Lidz, C.S. (1983). Psychological assessment of the preschool disadvantaged child. (ERIC Document Reproduction Service No. ED 219 912)

The author described a psychological assessment process for use with the disadvantaged preschooler which involves screening, diagnostic evaluation, instruction related assessment, evaluation of the results of instruction, and readiness. Attempts to devise culture-free measures were discussed. A need for an understanding of language usage in the home was discussed. For Native Americans, the use of nonverbal measures was stressed.

Lombardi, T.P. (1969). Psycholinguistic abilities of Papago Indian school children. Exceptional Children, 36(7), 485-493.

This study investigated the psycholinguistic abilities of Papago Indian school children utilizing the 1968 edition of the Illinois Test of Psycholinguistic Abilities (ITPA). Data obtained were analyzed by a comparison of mean scaled scores using t-tests of paired comparisons for the following groups: (1) ITPA normative sample and Papago sample; (2) first and third graders; and (3) segregated and integrated populations. Statistical interactions between children, grade, and school were analyzed. Results indicated poorer performance of the Indians, especially on the auditory vocal tests, better performance of the Indians attending integrated schools, and the ineffective aspects of cumulative education.

McAreavey, J.P. (1975). An analysis of selected educationally handicapped South Dakota Sioux Indian children's responses to the Wechsler Intelligence Scale for Children and Wide Range Achievement Test of Reading. Dissertation Abstracts International, 36, 5154A. (University Microfilms No. 76-3927)

The purpose of the study was to determine the extent of fairness and of bias exhibited by selected intelligence and achievement tests when administered to educationally handicapped (EH) South Dakota Sioux Indian children. In conducting this study, 100 EH South Dakota Sioux Indian children were selected. The WISC and WRAT tests in reading

were administered. The data was then analyzed to ascertain the extent of fairness, bias, and, more specifically, those concerns regarding WISC scores compared to performance scores, ordering discrepancies, WISC subtests correlation with reading, and constancy of profile pattern across age, sex, in-town, and out-of-town groupings. Significant differences were found between Verbal and Performance I.Q.s. Ordering discrepancies occurred on five subtests. All WISC subtests correlated positively with the WRAT Reading Score. A significant main effect for Reading on the Full, Verbal and Performance I.Q. was found. It was recommended that users of the WISC be aware of the variability within age groups found in this study.

McKeever, W.F. (1981). Evidence against the hypothesis of right hemisphere language dominance in the Native American Navajo. Neuropsychologia, 19(4), 595-598.

The hypothesis that the Native American Navajo possesses a reverse (right hemisphere) language function dominance was tested, using the Lateralized Object Naming Latency Task as a measure of hemispheric language specialization. Navajo performances were indistinguishable from those of "Anglo" university students. The Navajo appeared no less consistently left hemisphere dominant for language than other neurologically-normal, right-handed persons.

McShane, D.A., & Plas, J.M. (1984). The cognitive functioning of American Indian Children: Moving from the WISC to the WISC-R. School Psychology Review, 13(1), 61-73.

Studies examining the performance of American Indian children on the Wechsler instruments were reviewed to provide the basis for an analysis of research with the Wechsler Intelligence Scale for Children-Revised. The factors that potentially influence Indian performance on the Wechsler were presented. Suggestions for interpretation of the Wechsler Intelligence Scales with American Indians are offered.

Middleton, A.H. (1976). Structure of intellect in American Indian children. Dissertation Abstracts International, 37(8), 4156B. (University Microfilms No. 77-2792)

The author concluded from a study of 80 American Indian children (3.5 to 4.5 years of age) that American Indian children differed in memory ability on the basis of social class. The structure of intellect factors was not related to the sex of American Indian children. Certain semantic and memory factors were found to favor rural American Indian children, and American Indian children exceeded other ethnic groups on tests involving spatial skills.

Mishra, S.P. (1984). WISC-R performance patterns of learning-disabled children from Papago culture. Journal of Clinical Psychology, 40(6), 1489-1492.

Forty-six third through fifth grade learning disabled Papago children, with an average I.Q. of 81.96, were examined using their WISC-R profiles recategorized by the Bannatyne system. The subjects were not characterized by the spatial-conceptual-sequential pattern as proposed by Bannatyne (1974), although their WISC-R performance was similar on sequential and spatial categories. The author suggested that caution be used when interpreting the Bannatyne profile for learning disabled minority children.

Moore, C.L., & Zarske, J.A. (1984). Comparison of Native American Navajo Bender-Gestalt performance with Koppitz and SOMPA norms. Psychology in the Schools, 21(2), 148-153.

This study investigated the use of the Bender-Gestalt for diagnosing learning disabled children by comparing their Bender-Gestalt performance with Koppitz (1974) norms and the System of Multicultural Pluralistic Assessment (SOMPA) norms. The 452 Navajo children were diagnosed as either learning disabled, educationally disadvantaged, or non-handicapped. The findings indicated that SOMPA and Koppitz norms may be useful in the psychological assessment of Navajo children.

More, A.J., & Oldridge, B. (1980). An approach to non-discriminatory assessment of Native Indian children. B.C. Journal of Special Education, 4(1), 51-59.

This article focused on evidence that intelligence testing is a culture-laden instrument when it comes to testing American Indian children who are having learning difficulties in school and their placement into special education programs is indicated. The System of Multicultural Pluralistic Assessment (SOMPA) was discussed in this article as a non-discriminatory approach because it reduces some of the cultural factors present in traditional assessment instruments. The SOMPA analyzes cognitive functioning, provides an estimated learning potential, and suggests developments in adaptive behavior areas. The authors recommended that the SOMPA be used as a more effective assessment instrument, although norms have not been developed for American Indian children.

Naglieri, J.A., & Yazzie, C. (1983). Comparison of the WISC-R and PPVT-R with Navajo children. Journal of Clinical Psychology, 39(4), 598-600.

This study explored the relationship between the Wechsler Intelligence Scale for Children-Revised (WISC-R) and the Peabody Picture Vocabulary Test (PPVT-R) for 37 Native American children. The PPVT-R standard scores correlated significantly with the WISC-R Verbal I.Q., Performance I.Q., and Full Scale I.Q..

Nelson, L., Tadlock, L., Dawes, J., Hipple, J., & Jetmalani, N. (1964). Screening for emotionally disturbed students in an Indian boarding school. Experience with the Cornell Medical Index Health Questionnaire. American Journal of Psychiatry, 120(12), 1155-1159.

The present study was based on the need to identify those Indian boarding school students who suffer from psychiatric disturbances. The limitation of psychiatric consultation time makes it desirable to determine with a practical screening program the population at risk for developing disruptive psychiatric problems, thus detecting the disturbed student often before overt symptoms become apparent to school personnel, and with a minimal expenditure of consultant's time. The Cornell Medical Index (CMI) has been shown to be a usable instrument for detecting mentally disturbed individuals.

Olion, L., & Gillis-Olion, M. (1984). Assessing culturally diverse exceptional children. Early Child Development and Care, 15(2-3), 203-231.

This article reviewed the traditional cultural values, learning styles, and problems in identifying ethnic groups in the United States. The authors recommended alternative techniques and strategies in assessing culturally diverse exceptional children. The difference between testing and assessment is examined, along with the purpose of assessment and the factors that should be considered in the

assessment of culturally diverse children. A definition of cultural diversity is examined along with some discussion of the importance of cultural awareness in the assessment process.

Pine, C.J. (1983). Obese and non-obese American Indian and Caucasian performance on the Mini-Mult MMPI and I-E scale. Journal of Clinical Psychology, 39(2), 251-256.

The author suggested that recent concerns over high incidences of obesity among various American Indian tribes and groups have been ignored by the psychological literature. Relationships between obesity, MMPI, and I-E Scale scores have been reported without regard for ethnicity. This study compared urbanized obese and non-obese American Indians and Caucasians on the Mini-Mult MMPI and I-E Scale (N=160). The major findings were that the Indian sample had higher Hypomania scale scores than the Caucasian sample and that males had higher Depression and Hypochondriasis scale scores than females. The scores were similiar across weight conditions. These results are discussed in terms of the complexity of obesity in general as well as ethnic/cultural and sex difference factors.

Ramstad, V.V., & Potter, R.E. (1974). Differences in vocabulary and syntax usage between Nez Perce Indian and White kindergarten children. Journal of Learning Disabilities, 7(8), 491-497.

Through the use of the Peabody Picture Vocabulary Test and the Northwestern Syntax Screening Test, the study

examined whether there were significant differences between Nez Perce Indian and White kindergarten children (21 in each group) in their use of receptive vocabulary, and receptive and expressive syntax. The study also attempted to determine if there were any significant differences between receptive vocabulary and receptive syntax, and between receptive and expressive syntax within each population. Significant differences in favor of the White children were found in all three tasks measured.

Reschly, D.J. (1981). Evaluation of the effects of SOMPA measures on classification of students as mildly mentally retarded. American Journal of Mental Deficiency, 86(1), 16-20.

The over-classification of minority children into the mild mental retardation category was the impetus for this study. The performance of children from four sociocultural groups, White (149), Hispanic (125), Native American Papago (122), and Black (128), were investigated on the System of Multicultural Pluralistic Assessment (SOMPA), Adaptive Behavior for Children and Estimated Learning Potential measures. The data revealed that there was a marked reduction in the number and percentage of children classified as mildly retarded in all sociocultural groups.

Rosenbluth, A.R. (1976). The feasibility of test translation between unrelated languages--English to Navajo. TESOL Quarterly, 10(1), 33-43.

This study investigated whether or not a test can be translated into Navajo in a form suitable for assessing the language development of kindergarten, first, and second grade Navajo students. The norms from an English test administered in Albuquerque, New Mexico, as well as from the Boehm Test of Basic Concepts norm group, were used to provide a comparison of the difficulty and discrimination of the translated test. Though words for basic concepts must exist in every language, the way they are incorporated into surface grammar for expression differs so widely between Navajo and English that the universality of this concept core probably cannot be tapped in a practical way by the translator or teacher.

Sacks, B. (1982). A study to investigate whether Navajo special education elementary students develop differences in cognitive abilities from regularly placed Navajo elementary children. Dissertation Abstracts International, 43, 3250A-3251A. (University Microfilms No. DA 8305290)

The purpose of this study was to determine whether Navajo learning disabled (LD) children, 7 through 13 years of age, differed in cognitive abilities from regularly placed Navajo elementary children of the same ages. The LD children scored significantly lower than regular children in overall cognitive abilities. It was concluded that the

Navajo LD children have not developed overall cognitive abilities as effectively as regular Navajo children. Learning disabled Navajo children, 7-8 years of age, scored lower than regular 7-8 year-old Navajo children in the verbal ability subtest, Finding Causes. The conclusion drawn was that this verbal ability is deficient among the LD children. Also, as Navajo children grow older, the cognitive differences apparent at ages 7 and 8 become smaller. It was concluded that experiences with cognitive processing skills should be emphasized to decrease discrepancies.

Seyfort, B. (1980). A critical look at the WISC-R with Native Indian children. Alberta Journal of Educational Research, 26(1), 14-24.

Analysis of the performance of American Indian children on the Wechsler Intelligence Scale for Children (Revised) confirmed prior results regarding the verbal and perceptual motor skills of that population. Because so many items did not contribute significantly to the total test variance, clinicians should interpret test results with caution.

Sidles, C., & MacAvoy, J. (1986, in press). Navajo adolescents on a primary language questionnaire, the Raven Standard Progressive Matrices (RSPM) and the Comprehensive Test of Basic Skills (CTBS): A correlational study. Journal of Indian Education.

One hundred twenty-four Navajo 14, 15, and 16 year-old regular classroom adolescents from schools in Arizona and

New Mexico were administered three instruments: (1) a primary language questionnaire; (2) the Raven Standard Progressive Matrices (RSPM); and (3) the Comprehensive Tests of Basic Skills (CTBS). Raw scores were obtained for the RSPM and CTBS and then transformed into derived scores to allow for descriptive and correlational analysis. There was close correspondence of mean scores on the RSPM across the variables of sex, grade level, and primary language results. Correlational analysis between the RSPM scores and CTBS achievement levels ranged from the upper .30s to the upper .40s, and all were significant at the $p<.01$ level. Correlational data indicated that the level of agreement between RSPM and CTBS scores was higher for female than male students. Norms were established for this sample of Navajo adolescents on the RSPM. Interpretations of the findings included implications for educators and psychometricians working with Navajo adolescents. Also included is a discussion of these findings as they relate to cultural sensitivity in testing and research questions for future exploration.

Street, D.R. (1984). The Das Simultaneous-Successive model applied to the WISC-R with referred Native American Navajo students. Dissertation Abstracts International, 45, 471A. (University Microfilms No. DA 8411457)

The purpose of this study was to determine whether referred Navajo Indian children manifested the pattern of

WISC-R subtest scaled scores predicted by Kaufman (1979) and Naglieri, Kamphus, and Kaufman (1983), and to determine how the forward and backward components of the Digit Span subtest load on the emergent pattern. The simultaneous grouping of WISC-R subtests was significantly greater than the successive grouping for each group of referred Navajos. The results also indicated that the educationally disadvantaged and non-handicapped groups demonstrated significantly greater simultaneous and successive scores than the learning disabled group.

Taylor, H.D., & Thweatt, R.C. (1972). Cross cultural development performance of Navajo children on the Bender-Gestalt test. Perceptual and Motor Skills, 35, 307-309.

This study focused on Navajo performance on the Bender-Gestalt test by obtaining developmental data from 160 Navajos and Anglos, who were in the 6 to 7 and 11 to 12 age group. There were significant differences between ethnic groups and age groups. Greater distortion was reported by the 6 to 7 year-old Navajo children than by the Anglo children of equivalent age. The study showed evidence that Navajo children functioned at the same competence level at the 12 year stage as their Anglo counterpart.

Teeter, A. (1980). The intellectual characteristics of the Native American learning disabled student: A diagnostic perspective. Dissertation Abstracts International, 41, 1503A. (University Microfilms No. 8022666)

In this study, 452 Navajo children were tested using three diagnostic instruments to determine the efficacy of the approaches in distinguishing learning disabled students. Children had previously been classified as learning disabled (150), non-handicapped (113), and educationally disadvantaged (189). The results suggested that 50% of the subjects should have been diagnosed as learning disabled.

Teeter, A., Moore, C.L., & Peterson, J.D. (1982). WISC-R verbal and performance abilities of Native American students referred for school learning problems. Psychology in the Schools, 19, 39-44.

This study was designed to determine if three diagnostic groups of Navajo children differed on intellectual dimensions as measured by the WISC-R. Subjects had been previously diagnosed by state certified professionals and were identified as non-handicapped (NH) (N=113), educationally disadvantaged (ED) (N=189), and learning disabled (LD) (N=150). Group means of the non-handicapped children were significantly higher than the LD group means on all WISC-R variables. The ED and the LD group means were similar on the verbal measures, but the LD group scores were lower than the ED group scores on

performance measures. The NH group demonstrated intellectual abilities and deficits similar to those reported for other primary-grade Navajo children who had not been referred for services.

Thorum, A.R., & Riley, G.D. (1971). A pilot study of the psycholinguistic abilities of Navajo school children. California State Federation CEC Journal, 20(3), 43-45.

Twenty-five Navajo students aged 8 through 10 were selected randomly and tested in order to determine psycholinguistic abilities. The scores were high on the visual component of the Illinois Test of Psycholinguistic Abilities, while the performance on the grammatical closure task showed a significant deficit, which suggested a language disability. Further investigation was needed in the areas of how children acquire language, and how it can be assessed and remediated.

Thurber, S. (1976). Changes in Navajo response to the Draw-a-Man test. Journal of Social Psychology, 99, 139-140.

This study was done to test Dennis' hypothesis (1966) that increasing acculturation of Navajos would decrease the disparity in Draw-a-Man scores as previously shown by Steggerda (1936). Steggerda showed that between boys and girls there was a significant 24 point disparity. The

assumption was that males were more visually stimulated because of more exposure to rituals and artistic achievements. This study concluded that scores declined from previous studies. The author suggested that the decline of scores was due to the level of poverty in existence now, with less influence from traditional values, and more influence from the media.

Vincent, L.L. (1974). The performance of Navajo and Apache Indian children on the Bender Gestalt test using the Koppitz developmental scoring system for visual-motor perception. Dissertation Abstracts International, 35, 5628A. (University Microfilms No. ECD75-11107)

The purpose of this study was to determine whether the norms presented in the Koppitz system for the Bender Gestalt are suitable for a comparison of two groups of children. The sample was comprised of 142 Navajo and 208 Apache children, ranging in age from 6 through 10 years. The normative sample, although larger, was of the same age. The author concluded that it may be appropriate to use Koppitz norms for Native American children 7 through 10 years of age, but caution should be used in applying these norms to American Indian children under 7 years of age. There was no evidence that the two tribes differed significantly in the time taken to complete the drawings, and the boys and girls within tribes did not differ significantly.

Zarske, J.A., Moore, C.L., & Peterson, J.D. (1981). WISC-R factor structure for diagnosed learning disabled Navajo and Papago children. Psychology in the Schools, 18(4), 402-407.

The factor structures of 192 Navajo children and 50 Papago learning disabled children on the Wechsler Intelligence Scale for Children (Revised) were compared. The previously diagnosed learning disabled children were ages 6 years, 8 months and 15 years, 2 months. Both groups were similar in the proportion of common factor variance by general factor, and the verbal-performance distinction was notable for both groups. The results supported the validity of the WISC-R as a measure of general intelligence functioning and deemed appropriate for diverse groups of children.

Zarske, J.A. (1980). The use of the Wechsler Intelligence Scale for Children (Revised) with learning disabled Navajo and Papago American Indian children. Disseration Abstracts International, 41, 1000A. (University Microfilms No. 8018713)

The purpose of this study was to determine whether Navajo and Papago American Indian learning disabled children manifested the pattern of WISC-R subtest scaled scores predicted by Bannatyne (1968, 1971), and to determine the factor structure of the WISC-R when it is used with learning disabled Navajo and Papago children. The scores for this group characterized by spatial-sequential-conceptual differences were responsible for the

absence of the predicted pattern. A three factor solution was found which supported the use of the WISC-R as a measure of spatial, conceptual and sequential intellectual skills.

Zarske, J.A., & Moore, C.L. (1982). Recategorized WISC-R scores of learning disabled Navajo Indian children. Psychology in the Schools, 19(2), 156-159.

Bannatyne's system (1974) recategorizes WISC-R scores to form spatial, conceptual, and sequential categories. In this study, the WISC-R scores of 192 learning disabled Navajo children, ages 6 through 16 years, were recategorized according to the Bannatyne system. The study found that the subjects failed to demonstrate the predicted spatial-conceptual-sequential pattern by Bannatyne.

Zarske, J.A., & Moore, C.L. (1982). Recategorized WISC-R scores for non-handicapped, learning disabled, educationally disadvantaged and regular classroom Navajo children. School Psychology Review, 11(3), 319-323.

For this study, a comparison was made of WISC-R verbal, performance, and full scale I.Q.s and the Bannatyne recategorized system. The sample consisted of 113 non-handicapped, 189 educationally disadvantaged, 150 learning disabled, and 44 regular classroom Navajo children. The students ranged from age 6 through 16

years. The predicted Bannatyne pattern (spatial-conceptual-sequential) failed to be demonstrated by the learning disabled group. All four groups displayed a characterization pattern of spatial-sequential-conceptual, and all showed a low verbal score-below 70. Although the sequential category differentiated the learning disabled from the other groups, Bannatyne is not supported for use by findings from this study.